

WHAT IS CLAIMED IS:

1. An optoelectronic device for detecting markings provided with contrasting patterns, comprising:

a transmitter for emitting transmitting light rays;

a receiver for receiving light rays, the receiver having an optical axis;

a deflection unit positioned for periodically reflecting the transmitting light rays across a monitoring range and for reflecting receiving light rays that are reflected by the markings;

an evaluation unit for evaluating the receiving signals present at the receiver output; and

a light-impermeable insert within which the receiver is positioned, the insert including channel structures extending in a direction of the optical axis for the receiver, for guiding the receiving light rays reflected by the deflection unit to the receiver.

2. The optoelectronic device according to claim 1, wherein the insert has a bottom and a bottom region adjacent the bottom, the receiver is arranged in the bottom region of the insert, and the channel structures include

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wall elements delimiting channels and projecting perpendicular from the bottom of the insert.

3. The optoelectronic device according to claim 2, wherein the channel structures define a honeycomb pattern with channels extending parallel to the optical axis of the receiver.

4. The optoelectronic device according to claim 2, wherein the receiver has a light-sensitive surface and the insert has a cross-section adapted to a size of the light-sensitive surface of the receiver.

5. The optoelectronic device according to claim 4, wherein the light-sensitive surface of the receiver is homogeneous and coherent.

6. The optoelectronic device according to claim 4, wherein the receiver includes a number of receiving elements each having a light-sensitive partial surface that constitutes a component of the light-sensitive surface.

7. The optoelectronic device according to claim 2, wherein the wall elements of the channel structures include one of roughed-up surfaces and structured surfaces.

8. The optoelectronic device according to claim 1, wherein the insert comprises one of a metal die cast part and an injection-molded plastic part.

9. The optoelectronic device according to claim 1, wherein the insert comprises an electrically conductive material.

10. The optoelectronic device according to claim 9, wherein the transmitter and the receiver are both positioned within the insert.

11. The optoelectronic device according to claim 10, wherein the transmitting light rays and the receiving light rays are guided coaxially across the deflection unit.

12. The optoelectronic device according to claim 4, wherein the light-sensitive surface of the receiver at least partially encloses the transmitting light rays.

13. The optoelectronic device according to claim 4, wherein the light-sensitive surface of the receiver includes a recess and the transmitter is arranged behind the receiver so that the transmitting light rays are guided through the recess.

14. The optoelectronic device according to claim 13, wherein the recess is a central bore in the light-sensitive surface of the receiver.

15. The optoelectronic device according to claim 14, wherein the recess ends at one edge of the receiver.

16. The optoelectronic device according to claim 2, wherein the transmitting light rays and the receiving light rays are guided inside separate channels of the channel structures in the insert.

17. The optoelectronic device according to claim 16, wherein the deflection unit comprises a polygonal mirror wheel with a number of mirror surfaces, and a receiving light spot of the receiving light rays that is projected onto one mirror surface at least partially encloses a transmitting light spot projected onto the same mirror surface.